author index

Abbas, N. 105
Adams, R. P. 453
Adsersen, A. 65
Adsersen, H. 65
Adzet, T. 29
Ahmed, A. A. 15
Al-Hasani, Z. I. 5
Al-Hassan, L. A. J. 223
Al-Wakeel, S. A. M. 57, 293
Ali, M. F. 647
Allen, G. A. 139
Altosaar, I. 597
Andersen, O. M. 545, 535
Armstrong, J. A. 631
Avalos, A. 253

Ba, A. T. 475
Backeljau, T. 425
Bain, J. F. 265
Baldwin, J. 351
Barrera, J. B. 17, 641
Benyamin, Y. 567
Bernath, J. 171
Bessieres, P. 105
Bevalot, F. 631
Billen, J. P. J. 647
Bjornland, T. 445
Blaney, W. M. 623
Bohm, B. A. 151, 273, 413, 467, 479
Boileau, M. G. 329
Bonnard, O. 437
Brimer, L. 65
Broussalis, A. M. 401
Buschinger, A. 217
Byberg, J. R. 23

Campbell, C. L. 627
Canigueral, S. 29
Carballeira, N. M. 421
Carmona, C. S. 419
Carter, F. L. 453
Castillo, R. 325
Ceccaldi, H. J. 333
Ceccaldi, J. 317
Charmantier, G. 325
Chesser, R. K. 89
Chu Ge-Ling 143
Cifuentes, B. 117
Codignola, A. 263
Cornett, C. 23
Coussio, J. D. 401
Crawford, D. J. 279
Crins, W. J. 273, 467
Crouau-Roy, B. 303
Czeczuga, B. 117

Dagne, E. 157, 179
Danos, B. 171
David, F. 111, 245
Davies, S. M. 425
Del Pero Martinez, M. A. 419
Denford, K. E. 133
Desrochers, A. M. 265
Diaz, J. G. 17, 641
Dolan, S. 195
Dole, J. 551
Downie, S. R. 133
Downum, K. R. 551
Dugdale, J. S. 227
Dyer, A. F. 9
da Silva, G. F. 541
de Bruyn, L. 425
de Mesquita, L. M. 379
de Paz, P. P. 17, 641
de Q. Paulo, M. 379

Eid, M. A. A. 509, 515
El-Ansari, M. A. I. 285
El-Garf, I. A. 57, 293
El-Hadidi, M. N. 293
El-Kareemy, Z. A. R. 615
El-Negoumy, S. I. 285
El-Sayed, N. H. 189
Elias, N. H. 223
Esen, A. 457
Espelie, K. E. 505
Everaerts, C. 437

Fatima, M. 541
Fayed, A. A. 615
Fernandes, J. B. 541
Ferraro, G. E. 401
Ferreres, F. 33
Fieschi, M. 263
Filho, M. B. 379
Fleming, C. C. 195
Foster, S. P. 227
Fung, S. Y. 191

Galgani, F. 497
Garcia, M.-L. 529
Garcia, T. Z. 17

Gaydou, E. M. 475
Giannasi, D. E. 51
Gil, M. I. 43
Goltenboth, R. 575
Gonzalez, A. G. 17, 641
Gonzalez, P. 237, 241
Gonzalez-Coloma, A. 59
Gottlieb, O. R. 249
Graur, D. 557
Gray, A. I. 47, 179, 291, 631
Grillitsch, M. 575
Gros, E. G. 299, 495
Guerin, P. 105
Guiard, J. 269
Guillard, R. L. 445, 589
Guppy, C. S. 273
Gurni, A. 401
Guttman, S. I. 343

Habermehl, G. 301
Hadfield, P. R. H. 9
Hanover, J. W. 627
Hartl, G. B. 575
Hebert, P. D. N. 329
Hefetz, A. 557
Heinze, J. 217
Hermann, H. R. 505
Herrebout, W. M. 191
Hilu, K. W. 457
Hock-Hin Yeoh 525
Hung Ta Chang 291, 491
Husain, S. Z. 43

Iglesias, J. 29
Ingold, J. L. 343
Intrator, S. 111

Jackson, B. D. 647
Jaroszewski, J. W. 23
Jarzebski, A. 301
Jay, M. 269
Jensen, P. S. 23
Johnson, R. H. 521

Kam-Hung Ng 47, 291, 485
Khamala, C. P. M. 655
Khoon Meng Wong 47
Kiaw-Lan Chang 47
Killebrew, D. W. 199
Kin-Fai Cheng 47, 485
Kornprobst, J.-M. 475
Kumar, D. 311

Lagarrigue, J.-G. 203
Lapp, M. S. 119
Lauga, J. 529
Lautier, J. 203
Lazaro, A. R. 541
Legaz, M. E. 253
Lemus, L. G. L. 79
Liaaen-Jensen, S. 445, 589
Liang-Feng Zhu 491
Lohani, H. 167
Lopez, A. 641
Lucotte, G. 105, 111, 245

Mabry, T. J. 15, 189
Maffei, M. 263
Mansour, R. M. A. 615
Marangos, C. 333
Mariotti, M. 245
Mathela, C. S. 161, 167
Mathela, D. K. 167
Mazarguil, H. 581
McArthur, E. D. 143
McCormick, S. P. 411
McDaniel, C. A. 453
Melkani, A. B. 161
Miller, R. O. 627
Miralles, J. 475
Moena, J. 593
Montgelard, C. 567
Morgan, E. D. 647
Mortimer, K. 351
Mutinga, M. J. 655

Nan-Yao Su 213
Noba, K. 475
Norris, J. A. 15, 189
Nozzolillo, C. 597

Obon, C. 33
Oliva, M. 431
Ovenden, J. R. 355
Ovstedal, D. O. 545

Palermo, J. A. 299
Pande, C. 161, 167
Panero, J. L. 413, 417
Pant, A. 161
Pasteels, J. M. 437
Patak, A. 351
Paul Pui-Hay But 47, 291, 47, 485, 491
Pennington, F. 589
Perez-Urria, E. 253

AUTHOR INDEX

Picman, A. K. 127
Porter, P. L. 261
Powell, A. M. 273

Qian Li 485, 491
Quintana, L. M. B. 379
Qumsiyeh, M. B. 89

Rajora, O. P. 635
Ramos, L. 431
Ranfaing, P. 581
Reynaud, P. A. 117
Rieseberg, L. H. 393
Rivera, D. 33
Robson, K. A. 411
Rodriguez, E. 551
Rogo, L. M. 655
Roisin, Y. 437
Romeo, J. T. 623
Roque, N. F. 379
Rouge, P. 529, 581
Roustan, C. 567
Rovirosa, J. 299, 495, 593
Ruffie, J. 105, 111
Rundel, P. W. 59
Rust, M. K. 213

Salasoo, I. 619
Saleh, N. A. M. 57, 285, 597, 615
Salem, M. S. 509, 515
San-Martin, A. 299, 495, 593
Sanderson, S. C. 143
Sanlaville, C. 269
Scheffrahn, R. H. 213
Schilling, E. E. 413, 417
Schutte, A. L. 471
Seldes, A. M. 299, 495
Senatore, F. 601
Seutin, G. 233
Sherman, S. L. 51
Silva, C. 421
Silva O, M. 279
Simmonds, M. S. J. 623
Simon, J.-P. 233
Singh, R. A. 359
Singh, S. N. 359
Smith, A. L. 627
Soltis, D. E. 393
Soltis, P. S. 393
Stuessy, T. F. 279
Stutz, H. C. 143
Swain, T. 115, 365
Sweet, M. H. 199
Szanto, J. 171

Taha, G. Z. 509, 515
Takeda, H. 367
Tetenyi, P. 171
Thomas, S. 467
Thuet, P. 325
Tomas-Barberan, F. A. 33, 43
Tomas-Lorente, F. 33
Toth, J. P. 213
Tunon, M. J. 237, 241

Valant-Vetschera, K. M. 403, 605
Vallejo, M. 237, 241
Van Wyk, B.-E. 471
Vasquez, M. L. 495
Vazquez, A. 421
Verdoorn, G. H. 287, 471
Veres, T. 171
Vicente, C. 253
Vieira, P. C. 541
Vincent, M. 317, 431
Von Rudloff, E. 119
van Wyk, B.-E. 287

Walker, D. B. 627
Wallace, J. W. 261
Wallace, J. W. Jr. 521
Waterman, P. G. 47, 179, 291, 485, 491,
Weigt, L. A. 343
Wells, T. C. 479
White, R. W. G. 355
Willing, R. 575
Wisdom, C. S. 59
Witter, M. S. 381
Wollenweber, E. 403, 605
Wondimu, A. 157

Yadav, P. R. 311
Yeh, F. C. 119, 373
Yenesew, A. 157, 179
Yun-Cheung Kong 47, 291, 485, 491

subject index

BIOCHEMICAL SYSTEMATICS AND ECOLOGY

INDEX TO VOLUME 16 (1988)

Acacia collinsii, convergence of cuticular hydrocarbons of 505
Acetylenes, distribution of in *Argyranthemum* sp. from Tenerife 17
Achillea,
flavonoid aglycones of leaf exudates of the *A. nobilis* group 403
leaf exudate flavonoids of the *A. millefolium* group 605
Achyrocline, phenolic constituents of 4 sp. of 401
Agaricaceae, chemical constituents of 6 sp. of 601
Agelas dispar, sterol composition in the marine sponge 421
Alkaloids,
variation in production of in ecotypes of *Papaver somniferum* 171
systematics of in the Rutaceae, subfamily Toddalioideae 179
chemotxonomic significance of integerrimine 287
chemotaxonomic value of in the genus *Dichilus* 471
indole and carbazole from *Micromelum falcatum* 485
chemosystematics of in *Dictyoloma vandellianum* 541
Amaranthus retroflexus, effects of isoalantolactone on seedlings of 127
Amino acids,
variations of free in marine crustaceans after rapid temperature changes 333
of lactate dehydrogenase among families of lampreys 351
sequences from vertebrate enkephalin precursors 581
composition of free in 6 mushroom sp. 601
effects of non-protein from *Calliandra* sp. on *Aphis fabae* 623
Amitermes, defensive secretions of soldiers of *A. emersoni* and *A. coachellae* 213
Ammodramus caudacutus, protein and enzyme uniformity in population of 233
Anthocyanins,
in populations of 8 *Metrosideros* sp. 535
patterns of in 31 European *Saxifraga* sp. 545
Anthraquinones, comparison of in rhizomes from *Kniphofia* sp. 157
Ants, esterase variability in the tribe Leptothoracini 217
Aphis fabae, effects of non-protein amino acids from *Calliandra* sp. on 623
Arginase, association with urea synthesis and N metabolism in *Clarias* 359
Argyranthemum, distribution of acetylenes and sesquiterpene lactones in sp. of 17
Arion,
systematics of isozymes from taxa of the *A. hortensis* complex 195
polymorphism of albumen gland protein from *A. owenii* 425
Arnica, flavonoid variation in 7 sp. of subgenus *Artica* 133
Aster bracteolatus, flavonoids in western N. American 139
Avena, flavonoid variations in 25 sp. of 597
Bacillariophyceae, carotenoid distribution patterns in 10 sp. of 589
Balsamorhiza, external methylated flavonoids in 3 sp. of 411
Berberidopsis beckleri, occurrence of lotaustralin in 23
Birds, protein and enzyme uniformity in population of short-tailed sparrows 233
Boerhaavia, sterols and fatty acids in leaves of 3 sp. of 475
Borjatriol, occurrence on leaf surfaces of *Sideritis* sp. 33
Bovini, biochemical systematics of 575
Brickellia,
flavonoids of leaves from *B. diffusa* 15
flavonoids of *B. coulteri* and *B. microphylla* 189
Buchenroedera, chemotaxonomic significance of integerrimine in 287
Bugs, male haemolymph plasma proteins in 2 groups of Indian 311
Calanipeda aquae-dulcis, relation between fatty acids and carotenoids of 317
Calliandra, effects of amino acids from sp. of on *Aphis fabae* 623
Camponotus aegyptiacus, secretion of Dufour's gland of 647
Carduus, flavonoid variation between *C. nutans* and *C. acanthoides* 265
Carotenoids,
in lichens from the Canary Islands 117
relationship with fatty acids in *Calanipeda aquae-dulcis* 317
developmental variations in ovary and hepatopancreas of *Penaeus* 431
chemosystematics of in *Phaeocystis* sp. clone 677-3 445
distribution patterns of in Bacillariophyceae (diatoms) 589

Cataglyphis savignyi, secretion of Dufour's gland of 647
Cattle, hemotypes and genetic diversity of Spanish breeds 237
Chemosystematics,
of alkaloids, coumarins and flavonoids in *Merrillia* 47
of flavonol glycosides in the *Fagonia thebaica* complex 57
biochemical and evolution of Californian *Epinephelus* sp. 79
of leaf oil terpene composition in *Thuja plicata* 119
of flavonoids in the Datiscaceae 151
of variations in terpenes of *Cymbopogon distans* 161
of terpenes in *Cymbopogon martinii* 167
of isozymes from taxa of *Arion hortensis* complex 195
of flavonol glycosides in the *Fagonia indica* complex 293
of flavonoid aglycones in leaf exudates of the *Achillea nobilis* group 403
of leaf flavonoids from *Parodiodoxa chionophilum* 419
of carotenoids in *Phaeocystis* sp. clone 677-3 445
of prolamins in seeds of the Poaceae 457
of *Micromelum* and the Clauseneae 485
of alkaloids and liminoids from *Dictyoloma vandellianum* 541
biochemical of the Bovini 575
of flavonoids from the genus *Avena* 597
of flavonoid glycosides in the subtribe Gnaphaliinae (Compositae) 615
Chemotaxonomy,
of polyphenols in 20 taxa of *Salvia* 29
of vacuolar and epicuticular flavonoids from *Sideritis* sp. 33
of methylated epicuticular flavones in the Lamiaceae 43
of foliar flavonoids in the genus *Ulmus* 51
of flavonoids in 198 populations of 7 sp. *Arnica* subgenus *Arctica* 133
of anthraquinones in rhizomes from 8 *Kniphofia* sp. 157
of alkaloids and liminoids in the Rutaceae, subfamily Toddalioideae 179
of isozymes from Cyprinidae sp. from Iraq 223
of sex pheromones in some N. Zealand Tortricinae moths 227
of flavonoid aglycones and evolution of the *Peritylinae* 273
of integerrimine in *Buchenroedera* and *Lotonis* section *Krebsia* 287
of coumarins in the monotypic genus *Psilopeganum* 291
of cell wall sugars in *Chlorella* strains 367
of external methylated flavonoids in *Balsamorhiza* section *Artorhiza* 411
of flavonoids from *Viguiera* section *Maculatae* 413
of flavonoids from *Viguiera* section *Brevifoliae* 417
of non-polar phenolics in *Layia* sp. 467
of piperidyl and quinolizidine alkaloids in *Dichilus* sp. 471
of sterols and fatty acids in *Boerhaavia* sp. 475
of mono- and sesquiterpene rich oils from *Murraya* sp. 491
of flavonoids from *Cymophyllus fraseri* 521
of anthocyanins in the genus *Metrosideros* 535
of anthocyanins in European *Saxifraga* sp. 545
of carotenoid distribution patterns in 10 diatom sp. 589
of coumarins in *Phebalium* sp. 631
Chenopodiaceae, evolutionary loss of flavonoids and other chemical characters in 143
Chenopodium,
effects of isoalantolactone on seedlings of *C. album* 127
allozyme variation in an endemic Chilean sp. of *C. sanctae-clarae* 279
Chlorella, cell wall sugars of strains of 367
Clarias batrachus, tissue arginase and N metabolism in 359
Clibanarius,
enzyme polymorphism within populations of *C. vittatus* 199
osmotic regulation in *C. erythropus* 325
Coumarins
chemotaxonomic significance of in *Psilopeganum* 291
6- and 8-prenylated from *Micromelum falcatum* 485
chemotaxonomy of in 3 *Phebalium* sp. 631
Crangon crangon, changes in free amino acids of after temperature changes 333
Cyanogenesis,
in gameto- and sporophytes of bracken 9
in relation to chemical evolution of the Flacourtiaceae 23

Cyanogenesis,
in relation to herbivory of plants from the Galapagos Islands 65
Cymbopogon,
terpene variations in *C. distans* 161
chemosystematics of terpenes in *C. martinii* 167
photosynthetic enzyme activities in *C. citratus* 263
Cymophyllus fraseri, taxonomic implications of flavonoids from 521
Cynara sibthorpiana, flavonoids of 285
Cyprinidae, isozymes from 9 sp. from Iraq 223
Datiscaceae, flavonoid systematics of 151
Dichilus, chemotaxonomic value of alkaloids in the genus 471
Dictyoloma vandellianum, chemosystematics of 541
DNA, mitochondrial, restriction site map of from *Gadopsis* 355
Dufour's gland,
composition of secretion of in halictine bees 557
composition of secretion from in 2 African desert ants 647
Dulcitol, in leaves of host plants of *Yponomeuta* sp 191
Echinococcus grandulosus, enzyme polymorphism in cysts of 5
Electrophoresis,
of phosphoglucomutase and tetrazolium oxidase in *Echinococcus* 5
of functional enzymes from tissues of Californian *Epinephelus* sp. 79
of isoenzyme loci in 4 genera of Rhombomyine gerbils 89
Southern blots of Y chromosome human specific sequences 105
Southern blots of restriction polymorphisms of factor VIII gene 111
of isozymes from terrestrial slugs of *Arion hortensis* complex 195
of isozymes from the intertidal anomuran, *Clibanarius vittatus* 199
of unspecific esterases in leptothoracine ants 217
of isoenzymes from tissues of 9 Cyprinidae sp. from Iraq 223
of protein and isozymes in population of sharp-tailed sparrows 233
analysis of hemotypes in Spanish cattle breeds 237
analysis of hemotypes in Spanish goat breeds 241
Southern blots of restriction fragments of MHC complex from chimpanzee 245
of isozymes from 13 enzymes of *Chenopodium sanctae-clarae* 279
of 15 enzyme systems from the *Speonomus* complex 303
of haemolymph plasma proteins from 2 groups of Indian bug 311
analysis of 11 enzyme systems of 2 *Leptodiaptomus* sp. 329
restriction map of mitochondrial DNA from river blackfish 355
of tissue arginase in *Claria batrachus* 359
of 15 enzymes from populations of *Thuja plicata* 373
of 12 enzymes from taxa of Hawaiian silversword alliance 381
of 13 enzymes from *Helianthus annuus* and *H. bolanderi* 393
of albumen gland protein from *Arion owenii* 425
of prolamins in seeds of the Poaceae 457
comparative study of digestive proteases in 5 *Penaeus* sp. 497
of blood proteins and enzyme systems from the Bovini 575
of 12 enzyme systems in clones of *Populus maximowiczii* 635
of 4 enzyme systems from 2 *Phlebotomus* sp. 655
ELISA, comparison of albumins from 5 rodent sp. using 567
Enkephalin precursors, phylogenetical aspects of structure-function relationships of . 581
Environment, responses of alkaloid production to in poppy ecotypes 171
Enzymes,
polymorphism of in hyatid cysts of *Echinococcus granulosus* 5
functional, systematics of in Californian groupers 79
rate of evolution of in Rhombomyine gerbils 89
isozyme patterns of in differentiation of terrestrial slugs 195
polymorphism of 6 loci in populations of *Clibanarius vittatus* 199
variability of unspecific esterases in leptothoracine ants 217
isoenzymes from tissues of 9 Cyprinidae sp. from Iraq 223
uniformity of in tissues from a population of sharp-tailed sparrows 233
photosynthetic, activities of in *Cymbopogon citratus* 263
allozyme variation in *Chenopodium sanctae-clarae* 279
polymorphism of esterases from troglobitic beetles 303
allozyme variation in 2 closely related sp. of *Leptodiaptomus* 329
amino acid composition of lactate dehydrogenase in lampreys 351

Enzymes,
association of arginase with urea synthesis and N metabolism in *Claria* 359
isozyme variations in populations of *Thuja plicata* 373
isoenzymes in phenotypic variation of Hawaiian silversword alliance 381
genetic variation of in *Helianthus annuus* and *H. bolandri* 393
comparative study of digestive proteases in 5 *Penaeus* sp. 497
variation in kinetic properties of β-glucosidases from cassava 525
polymorphism and systematics of in the Bovini 575
allozymes as aids for identification of clones of *Populus maximowiczii* 635
in biochemical identification of *Phlebotomus* sp. 655
Ephedra, C-glycosylflavones from sp. of 261
Ericaceae, distribution patterns of epicuticular alkanes from 11 sp. of 619
Evernia prunastri, inhibition of leaf formation in *Quercus pyrenaica* by phenols from 253
Evolution,
chemical, of the Flacourtiaceae 23
of groupers from the Gulf of California 79
rates of in 4 genera of Rhombomyine gerbils 89
loss of flavonoids and other chemical characters in Chenopodiaceae 143
in *Peritylinae* based on consideration of flavonoid aglycones 273
biochemical of acacia, wasp and ant 505
Fagonia,
distribution of flalvonoids in 3 taxa of the *F. thebaica* complex 57
chemosystematics of flavonoids in the *F. indica* complex 293
Fish,
biochemical systematics and evolution of Californian groupers 79
isozymes of 9 carp sp. from Iraq 223
evolutionary relationships among families of lampreys 351
mitochondrial DNA restriction site map of river blackfish 355
tissue arginase associated with urea synthesis and N metabolism in *Clarias* 359
Flacourtiaceae, cyanohydrin glycosides in relation to evolution of 23
Flavonoids,
of leaves of *Brickellia diffusa* 15
vacuolar and epicuticular from Spanish *Sideritis* sp. 33
epicuticular, distribution of methylated flavones in the Lamiaceae 43
foliar, in 6 N. American sp. of *Ulmus* 51
flavonol glycosides in 3 taxa of the *Fagonia thebaica* complex 57
variation in 198 populations of 7 sp. of *Arnica* subgenus *Arctica* 133
intraspecific variation in *Aster bracteolatus* from N. America 139
evolutionary loss of in the Chenopodiaceae 143
chemosystematics of in the Datiscaceae 151
of *Brickellia coulteri* and *B. microphylla* 189
C-glycosylflavones from *Ephedra* sp 261
variation between *Carduus nutans* and *C. acanthoides* 265
aglycones of the *Peritylinae* and their evolution 273
of *Cynara sibthorpiana* 285
flavonol glycosides in the *Fagonia indica* complex 293
of 4 *Achyrocline* sp. 401
externally accumulated aglycones of the *Achillea nobilis* group 403
methylated external in 3 *Balsamorhiza* sp. 411
leaf and floral from *Viguiera* section *Maculatae* 413
leaf and floral from *Viguiera* section *Brevifoliae* 417
from *Parodiodoxa chionophilum* leaves 419
in 7 *Layia* sp. 467
interpopulational variation of in *Luetkea pectinata* 479
taxonomic implications of in *Cymophyllus fraseri* 521
variations in from 25 *Avena* sp. 597
infraspecific variability of free aglycones in leaf exudates of *Achillea millefolium* group 605
chemosystematics of glycosides of in the subtribe Gnaphaliinae 615
Gadopsis marmoratus, mitochondrial DNA restriction site map of 355
Galapagos Islands, cyanogenic constituents in 475 plants from 65
Gene markers, duplicate expression of in the Hawaiian silversword alliance 381
Gerbils, Rhombomyine, rates of protein, chromosome and morphological evolution in ... 89
Glucosidases, variation in kinetic properties of from cassava 525

Gnaphaliinae, flavonoid systematics of 8 sp. in the subtribe (Compositae) 615
Goats, hemotypes and genetic diversity of Spanish breeds of 241
Gorilla gorilla, presence of human Y-chromosome sequences of in 105
Habitat, relation with genetic variation of selected freshwater invertebrates 343
Haloterpenes, in the identification of 2 chemotypes of a red alga 593
Helianthus,
phenolic variation in progeny of cultivated *H. annuus* 269
genetic variation in *H. annuus* and *H. bolanderi* 393
Hemotypes,
and genetic diversity of Spanish cattle breeds 237
and genetic diversity of Spanish goat breeds 241
Herbivory,
effects of ozone and nordihydroguaiaretic acid on in *Larrea* 59
sorbitol and dulcitol in relation to feeding of *Yponomeuta* sp. 191
Homo sapiens,
Y-chromosome specific sequences of in other primates 105
comparison of restriction fragment length polymorphisms of factor VIII gene with chimpanzee 111
Hydrocarbons, cuticular,
convergence of in social wasp, ant and host plant 505
distribution patterns in Ericaceae from Pacific N.W. USA 619
Insects,
sugar alcohols in relation to feeding behaviour of ermine moths 191
defensive secretions of 2 rare Nearctic desert termite sp. 213
electrophoretic variability of esterases in leptothoracine ants 217
morphological and pheromone differences between Tortricinae moths 227
genetic variability and differentiation in troglobitic beetles 303
male haemolymph plasma proteins in 2 groups of Indian bug 311
terpene composition in defensive secretions of 8 termite sp. 437
termiticidal activity of bark, wood and leaves of *Juniperus* sp. 453
effects of precocene II on food utilization by desert locust 509
effects of precocene II on morphogenesis of desert locust 515
composition of Dufour's gland secretions of halicitine bees 557
insecticidal activity of non-protein amino acids from *Calliandra* sp. 623
secretion of the Dufour's gland from 2 African desert ants 647
biochemical identification of 2 sandfly sp. 655
Integerrimine, chemotaxonomic significance of 287
Invertebrates, relationship between genetic variation and habitat in selected freshwater 343
Iophon proximum, identification of sterols from 299
Isoalantolactone, effect on germination, biomass and respiration of seedlings 127
Juniperus, termiticidal activities in bark, wood and leaves of sp. of 453
Kniphofia, comparison of anthraquinones in 8 sp. of 157
Lactate dehydrogenase, amino acid composition of in lampreys 351
Lamiaceae, distribution of methylated flavones in 24 genera of 43
Lampreys, evolutionary relationships among families of 351
Larrea tridentata,
effect of ozone on nordihydroguaiaretic acid content of resin from 59
inter- and intrapopulational variation of nordihydroguaiaretic acid in 551
Lathyrus, seed lectins and phenetic relationship in the genus 529
Layia, non-polar phenolics in 7 sp. of 467
Lectins, micro-complement fixation analysis of in *Lathyrus* 529
Leptodiaptomus, electrophoretic characterisation of 2 closely related sp. of 329
Lichens,
carotenoids in from Canary Islands 117
inhibition of leaf formation in *Quercus pyrenaica* by *Evernia prunastri* 253
Lignans, from *Rollinia exalbida* and *R. pickelli* 379
Liminoids,
chemical systematics of in the Rutaceae subfamily Toddalioideae 179
chemosystematics of in *Dictyoloma vandelliana* 541
Lipids,
metabolism of during vitellogenesis in *Pachygrapsus* 203
relation between fatty acids and carotenoids in *Calanipeda* 317
chemotaxonomy of fatty acids in leaves of *Boerhaavia* sp. 475
biochemical convergence of epicuticular hydrocarbons with insects and host plant 505

Lipids,
fatty acid composition of 6 mushroom sp. 601
Liriodendron tulipifera, geographic variation in twig oil terpenes of 627
Lotaustralin, occurrence of in *Berberidopsis beckleri* 23
Lotonis, chemotaxonomic significance of integerrimine in section *Krebsia* 287
Luetkea pectinata, interpopulational variation in flavonoids from 479
Manihot esculenta, variation in kinetic properties of β-glucosidases 525
Merrillia caloxylon, biochemical systematics of metabolites from 47
Metabolites, secondary, distribution of in 2 *Todaroa* subsp. 641
Metrosideros, anthocyanins in populations of 8 sp. of 535
Micromelum, alkaloids and coumarins in the chemotaxonomy of the Clauseneae 485
Mulinia lateralis, identification of sterols from 301
Murraya, chemotaxonomy of terpenes in leaf oils from sp. of 491
Nasutitermitinae, terpenes in defensive secretions from 8 sp. of 437
Nordihydroguaiaretic acid,
effect of ozone on content of in resin from *Larrea tridentata* 59
inter- and intrapopulational variation of in *Larrea tridentata* 551
Osmotic regulation, in the hermit crab 325
Ozone, effect on nordihydroguaiaretic acid content of resin from *Larrea* 59
Pachygrapsus marmoratus, lipid metabolism during vitellogenesis in 203
Pan troglodytes,
presence of human Y-chromosome sequences of in 105
comparison of restriction fragment length polymorphisms of factor VIII gene with man 111
monomorphism of Bc/1 restriction fragment length of DNA of 245
Papaver somniferum, variation in alkaloid production in ecotypes of 171
Parachartergus aztecus, convergence of cuticular hydrocarbons of 505
Parodiodoxa chionophilum, flavonoids in leaves of 419
Penaeus,
changes in free amino acids after temperature changes in *P. japonicus* 333
variations in carotenoids during sexual development of *P. schmitti* 431
comparative study of digestive proteases in 5 sp. of 497
Peptides, opioid, secondary structures of from vertebrates 581
Peritylinae, flavonoid aglycones and evolution of 273
Phaeocystis, carotenoids of sp. clone 677-3 445
Phebalium, chemotaxonomy of coumarins in 3 sp. of 631
Phenolics,
inhibition of leaf formation in *Quercus pyrenaica* by lichen 253
variation of in progeny of the cultivated sunflower 269
of 4 *Achyrocline* sp. 401
in 7 *Layia* sp. 467
Pheromones,
sex, differences between some N. Zealand Tortricinae moths 227
significance of multicomponent in denoting specific compositions 557
composition of in Dufour's gland from 2 African desert ants 647
Phlebotomus, biochemical identification of *P. pedifer* and *P. elegonensis* 655
Plocamium cartilagineum, identification of 2 chemotypes of 593
Poaceae, prolamin size diversity in the 457
Polyphenols, chromatographic survey of in *Salvia* sp. 29
Populus maximowiczii, allozymes as aids for identification of clones of 635
Precocene II,
effects on food utilization by desert locusts 509
effects on morphogenesis of desert locusts 515
Proteases, comparative study of digestive in *Penaeus* sp. 497
Proteins,
uniformity of in tissues from a population of sharp-tailed sparrows 233
electrophoresis of haemolymph plasma in Indian bugs 311
polymorphism of from albumen gland of *Arion owenii* 425
size and size heterogeneity of prolamins in the Poaceae 457
micro-complement fixation analysis of *Lathyrus* lectins 529
immunological relationships of albumin from 5 rodent sp. 567
polymorphism and systematics of blood in the Bovini 575
secondary structures and hydropathic profiles of enkephalin precursors 581
Pseudomyrmex ferrugineus, convergence of cuticular hydrocarbons of 505
Psilopeganum sinense, chemotaxonomic significance of coumarins in 291

SUBJECT INDEX

Pteridium aquilinum, cyanogenesis in gameto- and sporophytes of 9
Quercus pyrenaica, inhibition of leaf formation in by lichen phenolics 253
Rodents, albumin immunological relationships among 5 sp. of 567
Rollinia, lignans from *R. exalbida* and *R. pickelli* 379
Rutaceae, chemical systematics of the subfamily Toddalioideae 179
Salvia, chromatographic survey of polyphenols from sp. of 29
Saxifraga, anthocyanin patterns of 31 European sp. of 545
Schistocerca gregaria,
effects of precocene II on food utilization by 509
effects of precocene II on morphogenesis of 515
Sesquiterpenes,
distribution of lactones of in *Argyranthenum* sp. from Tenerife 17
effect of isoalantolactone on germination, biomass and respiration of seedlings . 127
chemotaxonomy of in leaf oils of *Murraya* sp. 491
Sideritis, flavonoids and a diterpene from some Spanish sp. of 33
Silversword alliance, duplicate expression of gene markers in Hawaiian 381
Sorbitol, in leaves of host plants for *Yponomeuta* sp. 191
Speonomus, genetic variability and differentiation in sp. complex of 303
Sterols,
from the marine sponge *Iophon proximum* 299
from the coot clam *Mulinia lateralis* 301
4α-methyl-24-ethyl-5β-cholest-8(9)-en-3β-ol from *Agelas dispar* 421
chemotaxonomy of in leaves of *Boerhaavia* sp. 475
identification of in the marine sponge *Tedania excavata* 495
composition of in 6 mushroom sp. 601
Sugars, from cell walls of strains of *Chlorella* 367
Tedania excavata, identification of sterols in 495
Termiticidal activity, in bark, wood and leaves of *Juniperus* sp. 453
Terpenes,
multivariate analysis of composition of in leaf oil of *Thuja plicata* 119
chemosystematic implications of variations of in *Cymbopogon distans* 161
chemosystematics of in *Cymbopogon martinii* 167
in defensive secretions of 2 rare *Amitermes* sp. 213
composition of in defensive secretions from 8 termite sp. 437
chemotaxonomy of in leaf oils of *Murraya* sp. 491
geographic variation in composition of from twig oil of *Liriodendron* 627
Thuja plicata,
multivariate analysis of leaf oil terpene composition of 119
isozyme variation of in populations from British Columbia 373
Todaroa aurea, distribution of secondary metabolites in 2 subsp. of 641
Tortricinae, morphological and pheromone differences in 18 N. Zealand sp. 227
Ulmus, foliar flavonoids from 6 N. American sp. of 51
Urea, synthesis, N metabolism and arginase in *Claria batrachus* 359
Variation, genetic, relationship with habitat of selected freshwater invertebrates ... 343
Viguiera,
flavonoids from section *Maculatae* 413
flavonoids from section *Brevifoliae* 417
Vitellogenesis, lipid metabolism during in the female crab 203
Yponomeuta, sugar alcohols in leaves of some host plants for sp. of 191

Compiled by Dr. Peter Holloway, Department of Agricultural Sciences,
University of Bristol, Long Ashton Research Station, Bristol, BS18 9AF, UK.